

WHAT IS CLAIMED IS:

1. Apparatus for installation in-line in a vacuum system between a suctioning device for suctioning liquid effluent, and the inlet of a vacuum pump, the vacuum pump suitable for passing both gas and liquid, for separating particles from the liquid effluent, the apparatus comprising:

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(a) a surge tank for receiving liquid effluent, the surge tank having a surge tank inlet for connecting to a suctioning device, a surge tank liquid effluent outlet and a surge tank air outlet;

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(b) an air bypass conduit for establishing a fluid interconnection between the surge tank air outlet and a vacuum pump inlet;

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(c) a sedimentary deposit tank having a sedimentary deposit tank inlet connected to the surge tank effluent outlet for receiving liquid effluent from the surge tank and a sedimentary deposit tank outlet connected to the air bypass conduit, and within which sedimentary deposit tank the particles settle out from the liquid effluent;

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wherein, in use the surge tank inlet is connected to the suctioning device and the air bypass conduit is connected to the vacuum pump inlet; and when the suctioning device is open so as to permit liquid effluent and air to enter the vacuum system and the vacuum pump is operating, the pressure at the suctioning device is higher than the pressure inside the surge tank and the pressure inside the surge tank is higher than the pressure at the vacuum pump inlet.

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2. Apparatus as defined in claim 1, further comprising a flow inhibiting means for inhibiting the flow of liquid effluent through the sedimentary deposit tank for facilitating the settling of particles within the sedimentary deposit tank.

3. Apparatus as defined in claim 2, wherein the flow inhibiting means comprises a constriction of the liquid effluent flow path in the vicinity of the sedimentary deposit tank outlet.
4. Apparatus as defined in claim 3, wherein the constriction comprises a conduit connected between the sedimentary deposit tank outlet and the air bypass conduit, sized so as to constrict the flow of liquid effluent.
5. Apparatus as defined in claim 2, wherein the flow inhibiting means comprises a constriction of the liquid effluent flow path in the vicinity of the sedimentary deposit tank inlet.
6. Apparatus as defined in claim 5, wherein the constriction comprises a conduit between the surge tank effluent outlet and the sedimentary deposit tank inlet sized so as to constrict the flow of liquid effluent.
7. Apparatus as defined in claim 2, wherein the flow inhibiting means is a flow controlling means.
8. Apparatus as defined in claim 7, wherein the flow controlling means is a throttle valve in the vicinity of the sedimentary deposit tank outlet, whereby the flow rate of effluent may be adjusted by adjusting the throttle valve.
9. Apparatus as defined in claim 8, wherein the throttle valve is a needle valve.
10. Apparatus as defined in claim 9, wherein the cross sectional area of the liquid effluent flow path in the vicinity of the sedimentary deposit tank inlet is less than the cross-sectional area of the liquid effluent flow path in the vicinity of the sedimentary deposit tank inlet, so as to reduce the flow rate of liquid effluent out of the sedimentary deposit tank via the sedimentary

deposit tank outlet as compared to the potential flow rate of liquid effluent into the sedimentary deposit tank via the sedimentary deposit tank inlet.

11. Apparatus as defined in claim 1, wherein the sedimentary deposit tank is detachably coupled to the surge tank effluent outlet and the air bypass conduit, wherein the sedimentary deposit tank is readily detachable for emptying and replacement.
12. Apparatus as defined in claim 1, further comprising one or more filters through which liquid effluent passes en route to the vacuum pump.